

**AMENDMENTS TO THE CLAIMS:**

1. (Currently Amended) An amplitude limiting circuit for limiting an amplitude of a signal input to a power amplifier, comprising:
  - an amplitude converter which calculates an amplitude value of an input signal;
  - a determination unit which detects, as a detection interval, an interval in which the amplitude value exceeds a threshold, on ~~the~~a basis of a preset threshold and the amplitude value of the input signal;
  - a peak detector which detects, in the detection interval, a peak time when a maximum amplitude value appears and ~~ansaid maximum~~ amplitude value at the peak time as a peak value;
  - a window filter which generates a window function for limiting the amplitude value to a value not more than the threshold by using the peak value output from said peak detector;
  - a delay circuit which delays the input signal such that the peak time output from said peak detector coincides with a time when the window function output from said window filter exhibits a minimum value; and
  - a multiplier which multiplies an output signal from said delay circuit by the window function.
2. (Original) A circuit according to claim 1, wherein said determination unit comprises
  - an amplitude comparing section which compares the preset threshold with the amplitude value of the input signal, and
  - an interval detecting section which detects an interval in which the amplitude value

exceeds the threshold.

3. (Currently Amended) A circuit according to claim 1, wherein

said ~~window filter outputs a window function which~~ exhibits a value of 1 before and after a preset correction interval longer than the detection interval and makes a value at ~~the~~a center of the correction interval proportional to ~~the~~a reciprocal of the peak value, and

said delay circuit delays the input signal such that the peak time coincides with the center of the correction interval.

4. (Currently Amended) A circuit according to claim 3, wherein said ~~window filter outputs a window function exhibiting~~exhibits a value which is 1 until the peak value and becomes not more than a value (threshold/peak value) at the center of the correction interval after the peak time.

5. (Original) A circuit according to claim 3, wherein

letting threshold/peak value A,  $a = (1 - A)/2$ , and  $\tau$  be a value 1/2 a preset correction interval, said window filter outputs a window function  $w(t)$  represented by

$$w(t) = \begin{cases} 1 - a(1 - \cos(\pi t/\tau)) & (0 < t < 2\tau) \\ 1 & (t < 0, 2\tau < t) \end{cases}$$

and

said delay circuit delays the input signal by the time  $\tau$ .

6. (Original) A circuit according to claim 1, further comprising a threshold input section which inputs a threshold to said determination unit.

7. (Canceled)

8. (Original) ~~An apparatus according to claim 7,~~ A CDMA communication apparatus comprising:

a plurality of filters which pass predetermined band components containing input signals;

a plurality of first frequency converters which convert the signals passing through said filters into signals with different frequencies for the respective channels;

a carrier combining unit which combines the output signals from said first frequency converters;

an amplitude limiting circuit which limits an amplitude of an output signal from said carrier combining unit, said amplitude limiting circuit comprising:

wherein

~~said amplitude limiting circuit comprises~~

an amplitude converter which calculates an amplitude value of an input signal,

a determination unit which detects, as a detection interval, an interval in which the amplitude value exceeds a threshold, on the basis of a preset threshold and the amplitude value of the input signal,

a peak detector which detects, in the detection interval, a peak time when a maximum amplitude value appears and an amplitude value at the peak time as a peak value,

a window filter which generates a window function for limiting the amplitude value to a value not more than the threshold by using the peak value output from said peak detector,

a delay circuit which delays the input signal such that the peak time output from said peak detector coincides with a time when the window function output from said window filter exhibits a minimum value, and

a multiplier which multiplies an output signal from said delay circuit by the window ~~function~~ function;

a D/A converter which converts an output signal from said amplitude limiting circuit into an analog signal;

a second frequency converter which converts the analog signal into an RF signal; and

a transmission power amplifier which amplifies the RF signal to power necessary for a transmission, and wherein

said delay circuit delays said input signal by a lapse time  $\tau$ , where  $\tau$  comprises a value set in advance to half a value corresponding to a time longer than an interval in which said input signal exceeds said threshold.

9. (New) A circuit according to claim 1, wherein said input signal comprises an in phase component I and a quadrature component Q, and said amplitude value of said input signal comprises  $(I^2 + Q^2)^{1/2}$ .

10. (New) An apparatus according to claim 8, wherein  $\tau$  further comprises a value between 10 and 20 times a chip period used, where said chip period is a reciprocal of a

Application No. 10/642,614  
Attorney Docket: P15467-A (YAM.055)

spreading frequency used in said CDMA communication apparatus.

11. (New) An apparatus according to claim 10, wherein said window function comprises  $w(t)$  represented by

$$w(t) = \begin{cases} 1 - a(1 - \cos(\pi t/\tau)) & (0 < t < 2\tau) \\ 1 & (t < 0, 2\tau < t), \end{cases}$$

and

said delay circuit delays the input signal by a time  $\tau$ .